

Reflecting on the Past to Plan the Future: Revenue Performance Evaluation of Indian GST

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Abstract

Assessment of the revenue performance of states in the GST is vital, as State GST (SGST) constitutes a significant part of states' own tax revenue. Sustaining the revenue stream from taxes included in the GST is crucial for managing state finances. It is expected that states will at least generate revenue from SGST to maintain the share of revenue (in the nominal GSDP) incorporated into the GST during the base year (i.e., 2015-16). This paper's assessment reveals that some states, between 2018-19 and 2023-24, did not achieve the required share. Even with GST compensation, some states still fall short of the target share. This indicates that managing revenue shortfalls will be a challenge for some states after the GST compensation period. Moreover, there is a need to explore options for increasing states' revenue base by examining new tax sources and investigating innovative areas of taxation (e.g., storage and usage of digital information, online video sharing, robotics). The taxation system could also address externalities related to the environment, biodiversity, health, and activities/entertainments that have financial risks.

Key Words: Revenue performance assessment, Goods and Services Tax (GST), Tax buoyancy,

JEL Codes: H20, E62, H26.

*-Views expressed in this paper are those of the author.

1. Introduction

Indian GST marks eight years on 1 July 2025. During this period, the Indian economy faced an economic slowdown in 2020-21 due to the COVID-19 pandemic. Before the pandemic, a declining trend in annual economic growth was observed between 2017-18 and 2019-20 (Figure 1). However, after the pandemic, the average annual growth rate of GDP (and GVA) has been higher than the pre-pandemic average.¹

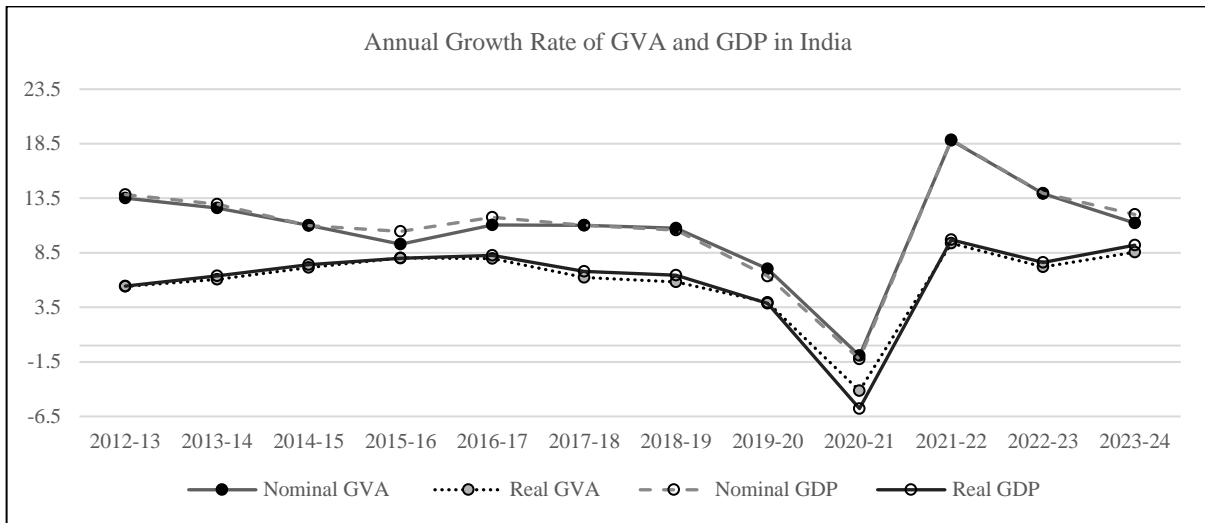
A declining trend in the annual growth rate of nominal GDP (and nominal GVA) has been observed over the past two years (2022-24), while the growth rate of the real GDP (and real GVA) remains stable. Due to supply-side shocks, the post-pandemic inflation rate, as measured by GDP or GVA deflators, was higher than the pre-pandemic average.² In Figure 1, we observe a larger gap between the real and nominal series of GVA and GDP during the post-pandemic period (2021-22 to 2023-24) compared to the pre-pandemic period (2016-17 to 2019-20).

Apart from an increase in tax buoyancy in the GST since Q3 of 2020-21, resulting from information-backed targeted measures to combat tax evasion, the higher inflation rate has also led to increased tax collections in the post-pandemic period (Mukherjee, 2023).

States experienced different levels of economic shocks during the pandemic, and the recovery varied across different states. Depending on the economic impact of the pandemic, revenue mobilisation by states fluctuates (Mukherjee & Badola, 2022). Evaluating the revenue performance of states in the GST is essential, as the states' own GST collection makes up a significant share of their own tax revenue.

¹ The average annual growth rates of nominal GDP and nominal GVA were 9.9% and 10%, respectively, during the pre-pandemic period (2016-17 to 2019-20). In the same period, the average annual growth rates of real GDP and real GVA were 6.3% and 6%, respectively. During the post-pandemic period (2021-22 to 2023-24), the average annual growth rates of nominal GDP and nominal GVA were 14.9% and 14.6%, respectively. The average annual growth rates of real GDP and real GVA were 6.8% and 8.4%, respectively, in the post-pandemic period.

² Based on GDP and GVA deflators, the average annual inflation rates were 3.6% and 4%, respectively, during the pre-pandemic period. During the post-pandemic period, the average annual inflation rates were 6.1% and 6.3% based on GDP and GVA deflators, respectively.

Figure 1: Annual Growth Rate of GVA and GDP in India

Source: Computed by the author based on EPWRF Time Series Database.

The objective of this paper is to assess the revenue performance of states in the GST from 2018-19 to 2023-24. It is expected that states will generate revenue, as a percentage of nominal GSDP, from the State GST (without compensation) at least equal to the revenue included in the GST in the base year 2015-16. We present the data source in the next section. In section three, we present the results. We conclude the paper in section three.

2. Sources of Data

Data on state-wise collections of State GST and GST compensation receipts are sourced from the Comptroller General of India's State Finance Accounts or the Combined Finance and Revenue Accounts (CFRA). If the Finance Account is unavailable for a state, we rely on the State Budget Documents. It is important to note that during 2017-18 and 2018-19, a portion of the IGST settlement to states was based on the tax devolution formula. Consequently, this part of the IGST settlement is included alongside SGST to determine the total revenue profile of the states in the SGST collection. We excluded 2017-18 from our analysis, as the state-wise pre-GST revenue for that year (i.e., from 1 April 2017 to 30 June 2017), as available from the GST portal, is not an audited statement of accounts and does not match the data reported by some states. State-wise nominal GSDP figures are sourced from the Ministry of Statistics and Programme Implementation's website, as released in April 2025.

3. Results and Analysis

3.1 Revenue Performance Assessment of Major States

Table 1 shows that, apart from a few years and states, State GST collection (including IGST settlement on the SGST account and excluding GST compensation receipts) as a percentage of nominal GSDP falls short of the revenue subsumed into the GST in the base year of GST, i.e., 2015-16, as a percentage of the then-nominal GSDP. In 2018-19, out of 18 major states, the share of SGST in GSDP was higher than that of 2015-16 for six states (Andhra Pradesh, Maharashtra, Rajasthan, Telangana, Uttar Pradesh, and West Bengal). A fall in the annual growth rate of nominal GSDP in 2019-20 compared to 2018-19 across all major states, except Goa, along with reductions in GST rates for many commodities, contributed to the decline in SGST collection in 2019-20 for these states. In 2019-20, 2021-22, and 2022-23, except Maharashtra, the share of SGST in GSDP was lower than in the base year for other major states. In 2020-21, Maharashtra's SGST share in GSDP also declined below the base year level. Compared to 2019-20, the annual growth rate of nominal GSDP further declined in 2020-21 for all major states. This affected GST collections in 2020-21. Except for Haryana and Maharashtra, the share of SGST collection in the GSDP of all other major states in 2023-24 remains below that of the base year. Except for Maharashtra, even the average share of SGST in GSDP from 2018-19 to 2023-24 was lower than in 2015-16 for all major states.

Maintaining revenue streams linked to taxes subsumed into the GST (as a share of nominal GSDP) is vital for meeting states' revenue targets and financing the growing scale of public spending. To protect states' revenue, the Union government provided GST compensation to states from 1 July 2017 to 30 June 2022. States received GST compensation if their State GST collection (including IGST settlements on the SGST account and any revenue received from state taxes subsumed into the GST)³ fell short of the projected revenue for the year. The projection was based on an annual growth rate of 14 per cent of a state's revenue absorbed into the GST in the base year (2015-16).⁴

³ Revenue received from recovery of arrears and tax amnesty schemes for taxes subsumed into the GST from 1 July 2017.

⁴ For example, if the base year's revenue from taxes subsumed into the GST is R (also known as Revenue Under Protection) for a state, the projected revenue in 2016-17 would be $R \times 1.14$, for 2017-18 it would be $R \times (1.14)^2$, and so on.

Table 1: State GST Collection as Percentage of Nominal GSDP of Major States (%)*

State	2015-16 (Base Year)	2018- 19	2019- 20	2020- 21	2021- 22	2022- 23	2023- 24	Average of 2018- 19 to 2023-24
Andhra Pradesh	2.30	2.43	2.18	1.93	2.10	2.14	2.19	2.16
Bihar	3.40	3.17	2.72	2.83	2.98	3.12	3.25	3.01
Chhattisgarh	3.27	2.65	2.29	2.25	2.30	2.46	2.69	2.44
Goa	3.96	3.52	3.25	2.68	3.40	3.78	3.81	3.40
Gujarat	2.80	2.37	2.11	1.82	2.26	2.37	2.39	2.22
Haryana	3.07	2.69	2.56	2.50	2.61	2.93	3.13	2.74
Jharkhand	3.10	2.84	2.71	2.67	2.54	2.73	2.68	2.69
Karnataka	3.46	2.88	2.61	2.30	2.51	2.65	2.78	2.62
Kerala	2.99	2.71	2.52	2.60	2.61	2.89	2.68	2.67
Madhya Pradesh	2.83	2.37	2.20	1.82	2.00	1.91	2.79	2.18
Maharashtra	3.08	3.29	3.11	2.68	3.10	3.33	3.50	3.17
Odisha	3.36	2.53	2.46	2.41	2.36	2.46	2.77	2.50
Punjab	3.71	2.64	2.37	2.19	2.48	2.65	2.81	2.52
Rajasthan	2.52	2.61	2.20	2.04	2.30	2.49	2.50	2.36
Tamil Nadu	2.53	2.40	2.20	2.12	2.18	2.25	2.28	2.24
Telangana	2.79	2.82	2.48	2.35	2.57	2.75	2.68	2.61
Uttar Pradesh	2.93	3.08	2.78	2.61	2.76	2.84	2.93	2.83
West Bengal	2.52	2.56	2.32	2.28	2.33	2.51	2.48	2.41

Note: *- State GST Collection includes SGST Collection, including IGST Settlement on SGST Account (including IGST transfers to states) without GST compensation receipts.

Source: Computed by the author based on data compiled from State Finance Accounts and Budget Documents.

In 2018-19, apart from three states — Gujarat, Madhya Pradesh, and Odisha — other major states were able to sustain their revenue streams, measured by the percentage share in the nominal GSDP, that were subsumed into the GST in 2015-16, aided by GST compensation (Table 2). Therefore, GST compensation helped states preserve the revenue stream associated with the taxes integrated into the GST in 2018-19. Except for six states — Bihar, Chhattisgarh, Gujarat, Madhya Pradesh, Odisha, and Telangana — the remaining 12 major states managed to maintain their share of SGST revenue in GSDP in 2019-20 with the help of GST compensation. In 2020-21 and 2021-22, the revenue gap between projected revenue under protection and actual SGST collection widened, leading to increased demand for GST compensation from the union government. Conversely, the collection of GST compensation cess declined during this period due to the economic slowdown caused by the COVID-19 pandemic. As a result, the union government borrowed Rs. 2.69 lakh crore through back-to-back loans during 2020-22 to disburse GST compensation to states. This was in addition to payments made from the GST compensation fund, which holds proceeds

from the collection of the GST compensation cess. Some goods attract GST compensation cess to discourage their consumption. Despite GST compensation, in 2020-21, Rajasthan's SGST collection fell short of the revenue needed to maintain its share of SGST in GSDP of 2015-16. By 2021-22, all states managed to achieve their SGST collection share in GSDP of 2015-16, including GST compensation. The GST compensation period concluded on 30 June 2022. Some states received arrears of GST compensation payments in 2023-24. Nonetheless, only six of the eighteen major states managed to sustain a higher SGST share in GSDP in 2023-24 compared to 2015-16. Additionally, the average annual SGST share in GSDP from 2018-19 to 2023-24 was lower than in 2015-16 for Madhya Pradesh and Odisha, indicating that these states, on average, were unable to maintain the SGST share in GSDP that was achieved in 2015-16 during this period (Table 2).

Out of the six years of analysis presented in Table 2, Odisha's share of SGST in GSDP exceeds that of 2015-16 in two years (2020-21 and 2021-22). For Bihar, Chhattisgarh, Gujarat, and Madhya Pradesh, the share of SGST in GSDP exceeds that of 2015-16 only for three years. Except for Haryana, Maharashtra, and Uttar Pradesh, the share of SGST in GSDP was lower than that of 2015-16 for at least one year between 2018-19 and 2023-24 for other states. This suggests that, even with GST compensation, some states are unable to attain the same SGST share in GSDP as in the base year.

Table 2: State GST Collection including GST Compensation Receipts as Percentage of Nominal GSDP of Major States (%)*

State	2015-16 (Base Year)	2018- 19	2019- 20	2020- 21	2021- 22	2022- 23	2023- 24	Average of 2018-19 to 2023-24
Andhra Pradesh	2.30	2.43	2.38	2.53	2.67	2.49	2.19	2.45
Bihar	3.40	3.66	3.32	4.28	4.33	3.14	3.29	3.67
Chhattisgarh	3.27	3.34	3.18	4.04	3.81	2.99	2.81	3.36
Goa	3.96	4.18	4.34	4.90	5.56	5.41	3.81	4.70
Gujarat	2.80	2.78	2.77	3.09	3.38	2.73	2.83	2.93
Haryana	3.07	3.09	3.30	3.79	3.79	3.20	3.45	3.43
Jharkhand	3.10	3.17	3.21	3.90	3.61	3.22	2.71	3.30
Karnataka	3.46	3.61	3.51	3.89	3.87	3.52	2.82	3.54
Kerala	2.99	3.08	3.20	4.21	3.98	3.60	2.75	3.47
Madhya Pradesh	2.83	2.71	2.69	2.86	2.92	2.29	2.98	2.74
Maharashtra	3.08	3.62	3.67	3.81	4.10	3.99	3.71	3.82
Odisha	3.36	3.21	3.19	3.93	3.64	2.71	2.77	3.24
Punjab	3.71	4.03	4.01	5.52	5.12	3.79	3.30	4.30
Rajasthan	2.52	2.85	2.64	2.50	2.91	2.81	2.59	2.71
Tamil Nadu	2.53	2.59	2.71	3.06	2.92	2.93	2.44	2.78
Telangana	2.79	2.82	2.71	2.93	3.16	3.06	2.73	2.90
Uttar Pradesh	2.93	3.10	3.08	3.55	3.59	3.34	3.09	3.29
West Bengal	2.52	2.74	2.69	3.13	3.15	3.05	2.48	2.87

Note: *- State GST Collection includes SGST Collection, including IGST Settlement on SGST Account (including IGST transfers to states). GST compensation receipts include compensation from the GST Compensation fund and back-to-back loans in lieu of the shortfall in the GST compensation collection during 2020-22.

Source: As in Table 1.

This analysis shows that many states have yet to benefit from the GST in terms of a higher proportion of SGST in GSDP. This raises questions about the effectiveness of VAT or GST as a “money machine” (Keen & Lockwood, 2006). It is also important to note that, following the introduction of GST in India, rates have been reduced on numerous occasions for various commodities to mitigate the impact of GST on economic growth and inflation. This has also affected revenue mobilisation. Tax evasion is another factor that has damaged the revenue profile of states. The Directorate General of GST Intelligence (DGGI) has detected 22,760 cases of GST evasion, involving Rs. 4.34 lakh crore during 2017-18 to 2023-24 (DGGI, undated). So far, Rs. 1.08 lakh crore has been recovered.

3.2 Assessment of Revenue Performance of Minor States

Except for Assam, Tripura, and Meghalaya (only for 2020-21), the share of SGST in GSDP of all other Northeastern states exceeded the levels of 2015-16 between 2018-19 and 2023-24 (Table 3). In 2018-19, Assam's SGST share in GSDP surpassed that of 2015-16, but since then, it has fallen short of the 2015-16 level. Even the average share of Assam's SGST from 2018-19 to 2023-24 was lower than that of 2015-16. A similar trend was observed in Tripura. The share of Himachal Pradesh's SGST in GSDP never reached the 2015-16 level. A similar situation was also noted in Uttarakhand. Delhi's performance is also not better than that of other minor states. On 30 October 2019, the former state of Jammu and Kashmir was divided into two territories: a Union Territory (UT) with a Legislative Assembly, called Jammu and Kashmir, and the UT of Ladakh. Unlike UTs with a legislative assembly, UTs without one do not possess independent taxation powers. The Union government collects taxes from these UTs, reflected in the Union budget. We present Jammu and Kashmir's GST revenue stream in Table 3. For the period before 2019-20, we show the revenue of the state of Jammu and Kashmir. For 2019-20, we cover revenue from 1 April 2019 to 30 October 2019 for Jammu and Kashmir, and from 31 October 2019 to 31 March 2020 for the UT of Jammu & Kashmir. From 2020-21 onwards, we report the SGST collections of the UT of Jammu & Kashmir. As the GSDP of Ladakh is not available separately, except for 2022-23, we consider the GSDP of Jammu and Kashmir for 2018-19 to 2023-24, based on data from the MoS&PI website. In 2019-20, Jammu and Kashmir experienced a significant decline in the SGST share in GSDP. No improvement was observed in 2020-21. The increase in 2021-22 was followed by a rise to 3.36 per cent in 2022-23. In Table 3, we also show the combined SGST share of the UT of Jammu and Kashmir and the UT of Ladakh in the GSDP of Jammu & Kashmir from 2021-22 onwards. This combined share remains lower than that of 2015-16. The SGST share in GSDP for Puducherry is considerably lower than in 2015-16. This suggests that, apart from the six Northeastern states, the experiences of other minor states are not substantially different from those of major states.

Table 3: State GST Collection as Percentage of Nominal GSDP of Minor States (%)*

State	2015-16 (base Year)	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Average of 2018-19 to 2023-24
Arunachal Pradesh	1.38	3.18	2.67	2.82	3.46	4.59	4.93	3.61
Assam	2.63	2.87	2.52	2.52	2.58	2.62	2.57	2.61
Himachal Pradesh	3.18	2.32	2.23	2.28	2.63	2.74	2.53	2.46
Manipur	1.78	2.87	2.86	2.91	3.21	3.55	2.35	2.96
Meghalaya	2.53	2.80	2.62	2.44	2.78	3.17	3.25	2.84
Mizoram	1.25	2.39	2.13	1.91	2.37	2.95	2.83	2.43
Nagaland	1.31	2.05	2.06	2.23	2.57	2.69	2.63	2.37
Sikkim	1.36	1.62	1.45	1.40	1.74	1.88	1.97	1.68
Tripura	2.19	2.16	1.90	1.97	2.06	2.05	1.93	2.01
Uttarakhand	2.80	2.15	2.06	2.24	2.34	2.51	2.49	2.30
Delhi	3.05	2.60	2.45	2.11	2.56	2.73	2.84	2.55
Jammu & Kashmir#	4.07	3.39	2.88	2.88	3.39	3.36	#	3.18
Puducherry	4.12	2.65	2.11	1.20	3.11	2.57	#	1.98
Jammu & Kashmir**	4.07	3.39	2.88	2.88	3.74	3.58	#	3.29

Note: *- State GST Collection includes SGST Collection, including IGST Settlement on SGST Account (including IGST transfers to states) without GST compensation receipts. #-Excluding Ladakh from 31 October 2019 onwards. **-Including Ladakh from 2021-22 onwards.

#- Required data not available in the public domain.

Source: As in Table 1.

With GST compensation, most minor states could achieve the same share of SGST in GSDP as in 2015-16 (Table 4). However, there are exceptions. In 2018-19, Puducherry's share of SGST in GSDP was lower than in 2015-16. Similar patterns appeared for Jammu and Kashmir in 2022-23. Even the combined share of the UTs of Jammu and Kashmir and Ladakh in 2022-23 is less than in 2015-16. During 2022-24, Tripura's share of SGST in GSDP was below the 2015-16 level. In 2023-24, the share of SGST in GSDP was lower for Assam, Himachal Pradesh, Tripura, Uttarakhand, and Delhi compared to 2015-16. This indicates that even with GST compensation, some minor states are unable to match their 2015-16 share of SGST in GSDP in certain years between 2018-19 and 2023-24. However, the average yearly share of SGST of minor states from 2018-19 to 2023-24 is higher than that of 2015-16.

Table 4: State GST Collection including GST Compensation Receipts as Percentage of Nominal GSDP of Minor States (%)*

State	2015-16 (Base Year)	2018- 19	2019- 20	2020- 21	2021- 22	2022- 23	2023- 24	Average of 2018- 19 to 2023-24
Arunachal Pradesh	1.38	3.18	2.67	2.83	3.46	4.59	4.93	3.61
Assam	2.63	3.02	2.78	3.21	3.25	2.71	2.57	2.92
Himachal Pradesh	3.18	3.70	4.05	4.57	4.89	3.42	2.58	3.87
Manipur	1.78	2.87	2.86	2.99	3.21	3.55	2.35	2.97
Meghalaya	2.53	3.03	2.91	3.28	3.54	3.17	3.31	3.21
Mizoram	1.25	2.39	2.13	1.91	2.37	2.95	2.83	2.43
Nagaland	1.31	2.05	2.06	2.27	2.57	2.69	2.63	2.38
Sikkim	1.36	1.62	1.45	1.47	1.77	1.88	1.97	1.69
Tripura	2.19	2.47	2.21	2.91	2.87	2.05	1.93	2.41
Uttarakhand	2.80	3.04	3.10	4.37	4.23	3.24	2.63	3.43
Delhi	3.05	3.16	3.39	3.64	4.01	4.02	2.94	3.53
Jammu & Kashmir@	4.07	4.30	4.27	5.43	5.90	3.56	#	4.69
Puducherry	4.12	4.39	4.44	6.98	6.60	4.18	#	4.97
Jammu and Kashmir@@	4.07	4.30	4.27	5.43	6.25	3.78	#	4.80

Note: *- State GST Collection includes SGST Collection, including IGST Settlement on SGST Account (including IGST transfers to states). GST compensation receipts include compensation from the GST Compensation fund and back-to-back loans in lieu of the shortfall in the GST compensation collection during 2020-22.

#- The required data from the Budget Documents of 2025-26 and the Finance Account of 2023-24 is unavailable.

@-Excluding Ladakh from 31 October 2019 onwards. @@-Including Ladakh from 2021-22 onwards.

Source: As in Table 1.

3.3 Analysis of Growth Rates in SGST Collection and GSDP across Major States

In 2019-20, except for Haryana, Madhya Pradesh, and Odisha, the annual growth rate of SGST collection was negative for other major states. Except for Goa, the annual growth rate of nominal GSDP in 2019-20 was lower than that of 2018-19 for all major states (Appendix Table A.1). Additionally, the GST Council reduced GST rates for a wide range of commodities in 2019-20. This reduction lowered the effective tax rate of the GST (Mukherjee, 2023). Except for Bihar and Chhattisgarh, all major states recorded a negative growth rate of SGST in 2020-21. In comparison to 2019-20, the annual growth rate of nominal GSDP was lower in 2020-21 for all major states. Except for eight major states (Andhra Pradesh, Chhattisgarh, Karnataka, Madhya Pradesh, Odisha, Punjab, Rajasthan, and Tamil Nadu), all other major states experienced a negative growth rate in GSDP in 2020-21. Kerala registered the lowest annual growth rate (-5.07%) among all major states in the nominal GSDP in 2020-21. All major states achieved an annual growth rate of SGST exceeding 19% in 2021-22. Part of this growth is attributable to the lower base effect, as the annual growth rate of SGST declined for two consecutive years (2019-20 and 2020-21)

for many major states. All major states showed a positive point-to-point growth rate of SGST from 2018-19 to 2021-22 (Figure 2). This confirms that apart from base correction, there was a real improvement in the GST collection in 2021-22. In GSDP, except Jharkhand and Kerala, all major states recorded a positive point-to-point growth rate from 2018-19 to 2021-22. This reinforces that apart from base correction, there was an improvement in the economic growth in 2021-22. Except for Madhya Pradesh, the growth rate in SGST collection in 2021-22 with respect to 2018-19 was higher than that of GSDP for other major states (Figure 2). In 2022-23, except for Madhya Pradesh, all major states registered a double-digit annual growth rate of SGST (Table 5). Except for Odisha and Punjab, all major states also achieved a double-digit annual growth rate in GSDP in 2022-23 (Appendix Table A.1). Except for Chhattisgarh, Madhya Pradesh, and Odisha, the annual growth rate of SGST in 2023-24 was lower than that of 2022-23. The lowest growth rate was observed in Kerala among all major states. Except for four states (Chhattisgarh, Haryana, Kerala, and Odisha), the annual growth rate of GSDP in 2023-24 was lower than that of 2022-23.

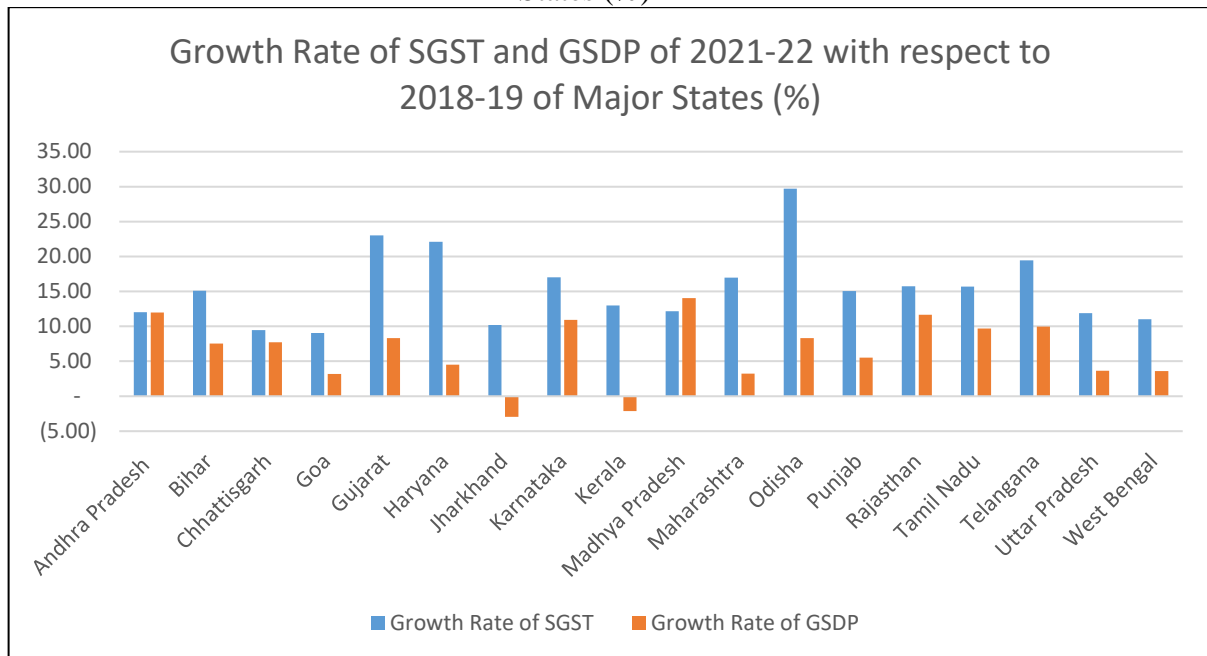
Table 5: Annual Growth Rate of SGST without GST Compensation in Major States (%)

State	2019-20	2020-21	2021-22	2022-23	2023-24
Andhra Pradesh	-4.8	-6.7	26.2	17.5	11.3
Bihar	-5.6	1.6	20.0	20.7	19.1
Chhattisgarh	-8.9	0.4	19.7	19.1	22.1
Goa	-3.6	-18.6	38.9	28.2	14.7
Gujarat	-3.5	-13.6	47.6	19.9	11.2
Haryana	0.5	-3.4	25.7	24.7	18.8
Jharkhand	-2.9	-5.8	20.5	19.0	8.6
Karnataka	-1.2	-10.5	32.4	23.0	15.7
Kerala	-4.4	-2.0	20.7	22.1	3.6
Madhya Pradesh	4.1	-15.6	27.6	6.2	61.5*
Maharashtra	-0.7	-15.3	39.1	24.6	17.1
Odisha	4.5	-1.2	25.7	13.5	28.5
Punjab	-5.6	-7.3	31.5	16.6	15.4
Rajasthan	-7.6	-5.5	32.5	22.9	12.5
Tamil Nadu	-1.9	-1.1	19.3	18.9	15.1
Telangana	-2.8	-5.6	30.3	25.4	8.4
Uttar Pradesh	-3.2	-9.3	27.4	17.5	17.2
West Bengal	-3.0	-4.7	20.2	21.4	7.7

Notes: *- This is due to an adjustment of Rs. 4,711.58 crore in SGST receipts in 2023-24, related to revenue from previous years (2017-18 to 2022-23).

Source: Computed by the author.

Figure 2: Growth Rate of SGST and GSDP of 2021-22 with respect to 2018-19 of Major States (%)



Source: Computed by the author.

In Table 6, we present the tax buoyancy of major states where both the growth rates of SGST and GSDP are positive. Only three states — Haryana, Madhya Pradesh, and Odisha — showed positive tax buoyancy in 2019-20 (Table 6). Of the 18 major states, 15 experienced a negative growth rate in SGST during 2019-20 (Table 5). Although states recorded a positive growth rate in nominal GSDP, a negative growth rate in SGST resulted in negative tax buoyancy for that year. In 2020-21, all states except Bihar and Chhattisgarh registered a negative growth rate in SGST (Table 5). Except for eight states, all other major states experienced negative GSDP growth rates in 2020-21 (Appendix Table A.1). Apart from Chhattisgarh, none of the states had positive growth rates in both SGST and GSDP in 2020-21. Even in Chhattisgarh, tax buoyancy was only 0.17 in 2020-21. In 2021-22, all major states reported positive growth rates for both SGST and GSDP. Except for Jharkhand and Odisha, tax buoyancy exceeded one in the other states. Two consecutive years of economic shocks (2019-20 and 2020-21) led to lower growth rates in SGST collections and GSDP. However, in 2021-22, the economies showed signs of recovery, reflected in the growth rates of SGST and GSDP, which made tax buoyancy figures more understandable. Compared to 2021-22, tax buoyancy improved in only seven states (Chhattisgarh, Haryana, Jharkhand, Kerala, Odisha, Tamil Nadu, West Bengal) in 2022-23. Madhya Pradesh recorded the lowest tax buoyancy in 2022-23. Compared to 2022-23, only six states (Andhra Pradesh, Chhattisgarh, Karnataka, Madhya Pradesh, Odisha, and Uttar Pradesh) saw an improvement in tax buoyancy in 2023-24. Except for Chhattisgarh, the annual growth rate of SGST in 2023-24 was lower than in 2022-23 for the remaining major states. Similarly, except for four states (Chhattisgarh, Haryana, Kerala, and Odisha), the annual

GSDP growth rate was lower in 2023-24 compared to 2022-23. In 2023-24, the tax buoyancy of Jharkhand, Kerala, Telangana, and West Bengal fell below one. Madhya Pradesh's tax buoyancy suddenly soared to 5.69 in 2023-24 due to an adjustment of Rs. 4,711.58 crore in SGST for that year, related to revenue from previous years (2017-18 to 2022-23). The Government of Madhya Pradesh carried out this correction to reconcile differences between RBI figures and those in the Finance Accounts. Consequently, if Rs. 4,711.58 crore is deducted from Madhya Pradesh's SGST in 2023-24, the revised tax buoyancy would be 3.78. This indicates that Madhya Pradesh's tax buoyancy improved significantly in 2023-24 compared to previous years.

This analysis indicates that tax buoyancy remains volatile, with some states experiencing tax buoyancy levels below one. Different states faced different levels of economic shock during 2019-21, and as a result, experienced volatility in the tax buoyancy of the SGST.

Table 6: Tax (GST) Buoyancy of Major States – without GST compensation

State	2019-20	2020-21	2021-22	2022-23	2023-24
Andhra Pradesh			1.67	1.11	1.31
Bihar			1.43	1.36	1.33
Chhattisgarh		0.17	1.17	1.67	1.90
Goa			4.08	1.84	1.07
Gujarat			2.52	1.36	1.11
Haryana	0.09		1.28	2.22	1.66
Jharkhand			0.77	1.73	0.82
Karnataka			1.51	1.40	1.53
Kerala			1.04	2.09	0.31
Madhya Pradesh	0.35		1.69	0.57	5.69
Maharashtra			1.91	1.55	1.50
Odisha	0.57		0.89	1.54	2.02
Punjab			1.96	1.82	1.74
Rajasthan			1.86	1.70	1.03
Tamil Nadu			1.22	1.22	1.10
Telangana			1.58	1.47	0.76
Uttar Pradesh			1.32	1.25	1.27
West Bengal			1.16	1.63	0.86

Source: Computed by the author.

3.4 Analysis of Growth Rates in SGST Collection and GSDP across Minor States

Except for Arunachal Pradesh, Assam, Sikkim, Tripura, Uttarakhand, Jammu and Kashmir, and Puducherry, other minor states experienced a positive growth rate in SGST in 2019-20 compared to 2018-19 (Table 7). Nagaland registered the highest growth rate in SGST. Except for Meghalaya, Tripura, Uttarakhand, Delhi, and Jammu & Kashmir, the annual

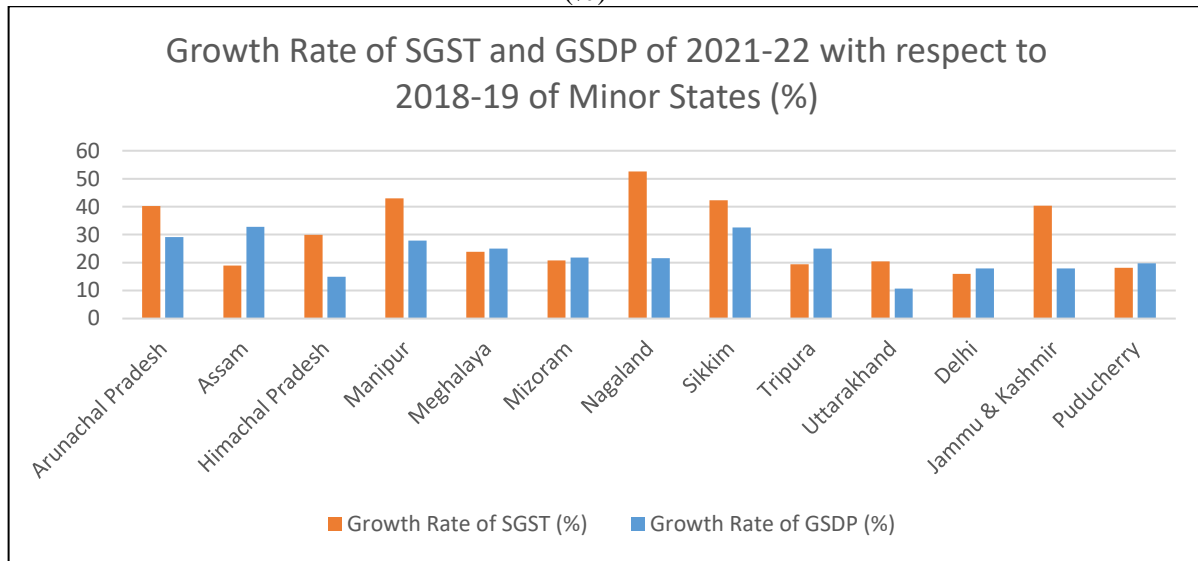
growth rate of nominal GSDP increased in 2019-20 compared to 2018-19 (Appendix Table A.2). The fall in the growth rate of GSDP in Tripura, Uttarakhand, and Jammu and Kashmir could be a significant reason for the decline in the annual growth rate of SGST in 2019-20, which may impact SGST collection. Except for Assam, Himachal Pradesh, Meghalaya, Mizoram, Delhi, and Puducherry, other minor states experienced positive annual growth rates of SGST in 2020-21. Except for Assam and Puducherry, no other minor states experienced two consecutive years of negative growth in SGST during 2019-21. Except for Arunachal Pradesh, Nagaland, Sikkim, and Jammu & Kashmir, other minor states experienced a negative growth rate of nominal GSDP in 2020-21 compared to 2019-20. Unlike major states, minor states did not experience an economic slowdown in 2019-20, as most states reported higher annual growth rates in GSDP during that period. The COVID-19 pandemic and associated economic restrictions led to an economic slowdown in 2020-21. In 2021-22, all states recovered from the downturn, achieving higher growth rates of nominal GSDP. Consequently, SGST collections improved for all minor states in the 2021-22 financial year. Compared to 2018-19, both the point-to-point growth rate of SGST and GSDP were higher in 2021-22 (Figure 3). The growth rate of SGST exceeded that of GSDP for Arunachal Pradesh, Himachal Pradesh, Manipur, Nagaland, Sikkim, Uttarakhand, and Puducherry (Figure 3). Except for Puducherry, all states experienced significant annual growth in SGST during 2022-23. This was mainly supported by the annual growth rate of nominal GSDP in 2022-23. Compared to 2022-23, the annual growth rate of SGST was lower in 2023-24 for all states. In Himachal Pradesh, the SGST growth rate declined substantially in the fiscal year 2023-24. Manipur experienced negative growth in SGST for that year. Except for Himachal Pradesh, Meghalaya, Mizoram, Uttarakhand, Delhi, Jammu & Kashmir, and Puducherry, other states experienced higher annual GSDP growth in 2023-24 (Appendix Table A.2).

Table 7: Annual Growth Rate of SGST of Minor States – Without GST Compensation (%)

State	2019-20	2020-21	2021-22	2022-23	2023-24
Arunachal Pradesh	-0.61	7.20	31.62	42.09	19.68
Assam	-1.51	-2.36	23.75	18.76	16.63
Himachal Pradesh	2.92	-2.36	29.30	17.34	1.53
Manipur	8.29	1.63	29.90	26.71	-22.96
Meghalaya	0.83	-9.56	35.87	32.12	16.66
Mizoram	1.62	-13.96	38.09	42.99	7.18
Nagaland	12.66	8.25	25.09	15.51	10.84
Sikkim	-1.29	1.79	41.57	22.68	20.08
Tripura	-4.39	2.86	21.47	13.75	8.96
Uttarakhand	-0.58	2.48	18.20	22.89	13.03
Delhi	1.45	-19.46	42.02	22.73	15.54
Jammu & Kashmir	-12.80	2.53	32.13	12.79	#
Puducherry	-13.8	-44.61	194.11	-9.56	#

Source: Computed by the author.

Figure 3: Growth Rate of SGST and GSDP of 2021-22 with respect to 2018-19 of Minor States (%)



Source: Computed by the author.

We analyse the tax buoyancy of minor states where both the growth rates of SGST and GSDP are positive (Table 8). In 2019-20, only Nagaland had a tax buoyancy exceeding one. In 2020-21, Nagaland's tax buoyancy reached 21.17, mainly due to a decline in the annual GSDP growth rate to 0.39 per cent, compared to the SGST growth rate of 8.25 per cent. In 2021-22, all minor states experienced tax buoyancy above one. The SGST growth rate surpassed the GSDP growth rate in all minor states for 2021-22. Except for Tripura and Jammu and Kashmir, the tax buoyancy was above one in all other minor states in 2022-23. In both states, the annual growth rates of SGST and GSDP decreased in 2022-23, with the decline in SGST growth rate larger than that of GSDP. The tax buoyancy of some minor states fell below one in 2023-24. For those states with a tax buoyancy less than one, the SGST growth rate declined more sharply than that of GSDP. In Assam and Nagaland, despite higher GSDP growth rates, the SGST growth rate decreased in 2023-24, leading to a reduction in tax buoyancy.

Table 8: Tax Buoyancy of Minor States

State	2019-20	2020-21	2021-22	2022-23	2023-24
Arunachal Pradesh		4.31	4.43	5.90	1.72
Assam			1.14	1.12	0.87
Himachal Pradesh	0.40		2.37	1.41	0.15
Manipur	0.94		1.70	1.81	
Meghalaya	0.10		1.88	2.04	1.19
Mizoram	0.12		3.29	2.87	0.61
Nagaland	1.05	21.17	3.08	1.48	0.81
Sikkim		0.36	2.96	1.70	1.37
Tripura			1.31	0.98	0.57
Uttarakhand			1.40	1.55	0.95
Delhi	0.20		2.48	1.53	1.37
Jammu & Kashmir		1.13	2.60	0.93	-
Puducherry			14.87		-

Source: Computed by the author.

3.5 Volatility in the GST Revenue of Major States

Volatility in SGST revenue necessitates a thorough analysis to determine its causes. Such volatility may stem from fluctuations in the growth rate of GSDP. We assess the coefficient of variation (CV) of the growth rate of SGST (CVSGST) and similarly for nominal GSDP (CVGSDP) over the period from 2019-20 to 2023-24.⁵

If the ratio of CVSGST to CVGSDP exceeds one, it indicates that the volatility of SGST growth is significantly higher than that of GSDP. Additionally, we calculate the CV of the share of SGST in GSDP for the same period. A higher CV of this share implies that revenue from SGST is highly volatile. Both measures reveal that Madhya Pradesh experienced the highest volatility in SGST revenue (Table 9). Odisha exhibited the lowest volatility in the first measure, while Jharkhand showed the lowest in the second. Among major states, Madhya Pradesh, Andhra Pradesh, Rajasthan, Gujarat, Goa, and Karnataka demonstrated the most considerable volatility in the first measure. Conversely, Madhya Pradesh, Goa, Gujarat, Rajasthan, Haryana, and Maharashtra showed the highest volatility in the second measure. An in-depth component-wise analysis of volatility in the SGST may reveal the source of volatility.

⁵ Coefficient of Variation (CV) = Standard Deviation/ Average*100

Table 9: Measures of Volatility of GST Revenue of Major States

State	CVSGST/CVGSDP		CV of SGST as % of GSDP	
Andhra Pradesh	3.37	(2)	7.55	(10)
Bihar	1.54	(14)	6.89	(11)
Chhattisgarh	2.19	(8)	7.89	(8)
Goa	2.40	(5)	12.24	(2)
Gujarat	2.79	(4)	9.97	(3)
Haryana	1.25	(16)	8.94	(5)
Jharkhand	1.18	(17)	3.55	(18)
Karnataka	2.31	(6)	7.85	(9)
Kerala	1.34	(15)	4.80	(15)
Madhya Pradesh	3.48	(1)	16.37	(1)
Maharashtra	1.92	(11)	8.92	(6)
Odisha	1.03	(18)	5.81	(13)
Punjab	2.25	(7)	8.80	(7)
Rajasthan	2.99	(3)	9.13	(4)
Tamil Nadu	1.97	(10)	4.27	(17)
Telangana	2.16	(9)	6.76	(12)
Uttar Pradesh	1.78	(12)	5.70	(14)
West Bengal	1.67	(13)	4.79	(16)

Source: Computed by the author.

4. Conclusions

Analysis of this paper shows that, apart from a few years and states, State GST collection (including IGST settlement on the SGST account and excluding GST compensation receipts) as a percentage of nominal GSDP falls short of the revenue subsumed into the GST in the base year of GST, i.e., 2015-16, as a percentage of the then-nominal GSDP. GST compensation was vital in sustaining the state revenue stream that is subsumed into the GST. Even with GST compensation, some states and in some years were not able to maintain the share of revenue in GSDP that was subsumed into the GST in the base year (2015-16).

The collection of the GST compensation cess has been extended until 31 March 2026. The proceeds from the GST cess are now used to service the back-to-back loans of Rs. 2.69 lakh crore taken by the union government during 2020-22 to compensate states for the shortfall in GST cess collection. Additionally, the union government paid the arrears of GST compensation to states in 2023-24 from the proceeds of the GST compensation cess.

It will be important to evaluate the performance of states in generating revenue from the SGST in the coming years, when there will be no payments of GST compensation arrears.

The question that will always trouble us is ‘how to enhance the revenue performance of states?’ Aside from expanding the tax base, improving tax efficiency and compliance are crucial for generating more revenue. An assessment of the revenue potential of states within the GST could be helpful. Addressing revenue leakages through information-driven, targeted interventions by the tax administration is essential. Moreover, there is a need to explore options for increasing states’ revenue base by examining new tax sources and investigating innovative areas of taxation (e.g., storage and usage of digital information, online video sharing, robotics). The taxation system could also address externalities related to the environment, biodiversity, health, and activities/entertainments having financial risks.

The revenue shortfall faced by some states could be structural, linked to the economic framework and/or natural resource endowment, such as minerals, fossil fuels, forests, and waters. It may also relate to the size and composition of the state's economy and its consumption base, as well as tax compliance and efficiency. For instance, states with coal and lignite mines previously collected state VAT and a clean energy/environment cess on intra-state sales of these resources under the pre-GST regime. For interstate sales, these states relied on CST and the clean energy/environment cess. Under the GST regime, these states are deprived of revenue from the GST compensation cess on coal, as this is not considered revenue of the states from where it is collected. Similarly, they are deprived of the 2 per cent CST revenue previously collected on inter-state coal sales. In the GST regime, interstate supplies attract IGST, which is collected at the point of origin and adjusted at the destination state(s) where the goods are ultimately consumed. To address such structural issues, a mechanism is needed to compensate the states hosting the mines. It is important to note that the destination-based taxation principle cannot internalise production-level environmental externalities, which are primarily local, since revenue generated is adjusted in the destination state(s) where consumption occurs. Given that extracting minerals and fossil fuels has also caused significant environmental damage to the origin state, there is a need to tackle this issue by imposing an origin-based tax. This will provide additional revenue to states where mines are located and help to mitigate the environmental impacts of the mines.

Similarly, states with extensive forest cover are deprived of revenue. Forests limit the expansion of a state's economic activities, constraining potential economic growth. Moreover, ecosystem services provided by forests, including flood control, soil erosion mitigation, carbon sequestration, oxygen provision, and local climate regulation, have spillover effects on other states. Therefore, compensating states with larger areas of forest cover is justified. States experiencing frequent natural disasters such as floods, forest fires, landslides, and droughts also suffer economic losses in terms of degradation and depletion of assets (capital stocks) that the current national income accounting system may not fully

capture. This results in significant revenue loss for the states. Consequently, there is a need for a mechanism to compensate these states for their economic and revenue losses.

It is unlikely that the GST framework can address all the structural issues related to the revenue shortfall of states. However, it will be important to explore the possible scope for internalising production and consumption stage externalities within the design and structural features of the GST. Designing an additional GST, in lieu of GST compensation cess, on commodities that currently attract a GST cess, may be desirable after 31 March 2026 (Mukherjee, 2025). This will generate additional revenue for both state and federal governments. The scope and coverage of the additional GST may be extended beyond the present goods that attract GST cess, considering the health and environmental impacts of the production and consumption of goods and services. Externalities are not limited to environmental and health impacts; they also encompass financial externalities, such as distress caused by exposure to certain services, which could be included within the scope of the additional GST.

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Appendix

Table A.1: Annual Growth Rate of Nominal GSDP of Major States (%)

State	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Andhra Pradesh	11.14	5.97	5.70	15.64	15.71	8.60
Bihar	12.64	10.20	-2.41	14.02	15.14	14.38
Chhattisgarh	15.69	5.37	2.22	16.83	11.49	11.60
Goa	3.61	4.42	-1.17	9.53	15.32	13.73
Gujarat	12.27	8.38	-0.06	18.86	14.71	10.09
Haryana	9.41	5.60	-1.03	20.10	11.11	11.36
Jharkhand	13.30	1.51	-4.40	26.79	10.96	10.46
Karnataka	10.96	9.22	1.55	21.41	16.45	10.24
Kerala	12.36	3.13	-5.07	19.79	10.56	11.54
Madhya Pradesh	14.25	11.82	1.98	16.38	10.96	10.80
Maharashtra	7.48	5.06	-1.74	20.42	15.83	11.38
Odisha	13.22	7.80	0.50	28.76	8.74	14.06
Punjab	8.81	4.78	0.71	16.06	9.15	8.86
Rajasthan	9.49	9.71	1.79	17.46	13.45	12.17
Tamil Nadu	11.27	6.93	2.58	15.91	15.48	13.71
Telangana	14.32	10.81	-0.74	19.19	17.30	11.06
Uttar Pradesh	9.88	7.45	-3.53	20.81	13.99	13.47
West Bengal	13.07	6.99	-3.17	17.36	13.10	8.96

Source: Computed based on data accessed from the Ministry of Statistics and Programme Implementation, Government of India.

Table A.2: Annual Growth Rate of Nominal GSDP of Minor States (%)

State	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Arunachal Pradesh	12.73	18.51	1.67	7.14	7.13	11.43
Assam	9.24	12.13	-2.03	20.87	16.72	19.10
Himachal Pradesh	7.10	7.27	-4.56	12.34	12.31	9.91
Manipur	6.20	8.85	-0.12	17.64	14.78	16.18
Meghalaya	9.04	8.06	-2.86	19.08	15.74	13.98
Mizoram	13.03	14.04	-4.27	11.59	15.00	11.69
Nagaland	8.75	12.02	0.39	8.16	10.46	13.39
Sikkim	9.36	10.70	5.02	14.03	13.35	14.67
Tripura	13.97	8.69	-1.19	16.44	14.06	15.68
Uttarakhand	4.59	3.88	-5.70	13.01	14.79	13.78
Delhi	8.92	7.38	-6.13	16.98	14.83	11.32
Jammu & Kashmir	14.42	2.65	2.25	12.38	13.77	11.26
Puducherry	6.36	8.28	-2.21	13.06	9.51	8.63

Source: Computed based on data accessed from the Ministry of Statistics and Programme Implementation, Government of India.

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